

CLASSIFICATION CONFIDENTIAL

CENTRAL INTELLIGENCE AGENCY

REPORT

INFORMATION REPORT

CD NO.

25X1

COUNTRY USSR

DATE DISTR. 19 MAR 54

SUBJECT Soviet Metallurgical Research

NO. OF PAGES 2

PLACE
ACQUIRED - - -NO. OF ENCLS.
(LISTED BELOW)SUPPLEMENT TO
REPORT NO.

25X1

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES, WITHIN THE MEANING OF TITLE 18, SECTIONS 793 AND 794, OF THE U.S. CODE, AS AMENDED. ITS TRANSMISSION OR REVELATION OF ITS CONTENTS TO OR RECEIPT BY AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. THE REPRODUCTION OF THIS FORM IS PROHIBITED.

THIS IS UNEVALUATED INFORMATION

25X1

1. [redacted] research project in black chrome plating at the Chemical Institute of the Academy of Sciences (Ukrainian SSR), Kiev. Associated [redacted] were Dmitry Pavlovich Zosimovich, a Candidate of Chemical Sciences and supervisor of the project, and Ivan Arsenevich Sheka. The project was classified as secret and funds were provided by a factory in Moscow [redacted] which manufactured large searchlights for the army. 25X1
2. [redacted] the work was repeated [redacted] at the Chemical Institute in Kiev under German occupation authorities and the results were reported to the Gmelin Institute in Berlin. This institute was bombed severely during WWII and [redacted] all records were destroyed. 25X1
3. The purpose of the project was to find corrosion-resistant and durable coatings of black chrome which would absorb the rays of both heat and light. Blued steel and black nickel, which had been tried, did not have adequate qualities of durability and corrosion-resistance. 25X1
4. The process of plating with black chrome [redacted] was very simple and inexpensive. The electrolyte solution we used consisted of an aqueous solution of chromium anhydride with a small quantity of sodium or potassium fluoride added. A particularly dense electric current is required: room temperature is sufficient. The black chrome plating can be placed on steel, copper, brass, or nickel surfaces. The plating that was most corrosive-resistant appeared to be that on steel after first covering with copper and thin nickel electrolyte. Samples of steel plated in this fashion were found to have very little change in weight when subjected to a corrosion test in a 3% solution of sodium chloride over a long period of time. Neither was there any change in appearance. Mechanical tests proved that this plating was very durable and also had the quality of being able to "join" with the metal being plated. 25X1

CLASSIFICATION CONFIDENTIAL

DISTRIBUTION									
STATE	X	ARMY	X	NAVY	X	AIR	X	OSIC	RTIC

25X1

25 YEAR RE-REVIEW

25X1

Page Denied